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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/307,574 05/07/99 MATTISON

P 042390.P4577

MMC2/1024
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EXAMINER

ART UNIT	PAPER NUMBER
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2878
DATE MAILED:

10/24/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Applicant N .

09/307,574

Applicant(s)

MATTISON, PHILIP E.

Examiner

Thanh X Luu

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 11. 6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. The request filed on August 27, 2001 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/307,574 is acceptable and a CPA has been established. An action on the CPA follows.

Claims 1-5 are currently pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill et al. (U.S. Patent 5,962,844) in view of Gorelik (U.S. Patent 5,764,288).

Regarding claim 1, Merrill et al. disclose (see Figures 3, 4 and columns 6 and 7) an apparatus utilized in an imaging device, comprising: a plurality of analog photocells (100) adapted to capture light energy incident upon them as a series of a plurality of analog signals; a first sample-and-hold (S/H) amplifier (n2, n3) coupled to the plurality of photocells and adapted to store a first plurality of analog signals of the series; a second S/H amplifier (n4, 122, n5) coupled to the first S/H amplifier and adapted to store the first plurality of analog signals when the first S/H amplifier stores a second plurality of

Art Unit: 2878

analog signals of the series; a differential amplifier (200) coupled to the first and second S/H amplifiers generating an analog difference of the first and second plurality of analog signals. Merrill et al. further disclose (see column 3, lines 24-25) using the result of the differential amplifier for video compression. Merrill et al. do not disclose an analog-to-digital (A/D) converter for converting the analog difference into a digital value. However, it is well known that digital values are necessary for video compression since digital values are more efficiently stored. Furthermore, it is notoriously well known in the art to convert analog values into digital values since digital values are more robust in the presence of noise. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to couple a digital converter to the differential amplifier in the apparatus of Merrill et al. to transform the analog difference into a digital values in order to provide better detection in the presence of noise and provide the digital values necessary for video compression. Merrill et al. further do not disclose a first digital converter coupled to the second S/H amplifier to convert the first plurality of analog signals to a digital key frame and storing that key frame into a digital memory. However, Gorelik teaches (see column 19, lines 14-27) that in a conventional video compression device, analog signals of a first frame are digitized and stored in memory as a key frame to encode the video and for decompression purposes. That is, Gorelik recognizes that digitizing analog signals and storing the result as a digital key frame in a memory is a necessary step in typical video compression, since the key to compression is that only the changes in the subsequent video frames are encoded with respect to the key frame, not the entire frames. Merrill et al. does not specifically disclose how video

Art Unit: 2878

compression is carried out. However, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the digital key frame method of Gorelik in the apparatus of Merrill et al. to properly compress video as well known. Lastly, the choice between serial and parallel readout is a matter of design choice. Serially shift registers are notoriously well known. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use serial readout in the apparatus of Merrill et al. in view of Gorelik to reduce the complexity and the costs of providing additional elements required for parallel readout.

4. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merrill et al. in view of Gorelik and Gordon et al. (U.S. Patent 3,833,903).

Regarding claim 2, Merrill et al. do not disclose the specifics of the digital converter. Gordon et al. disclose (see Figure 2) a digital converter includes: a voltage controlled oscillator (46); a counter (50) coupled to the oscillator, and the oscillator setting the rate of increase of the counter. Furthermore, A/D converters are notoriously well known. It is a matter of design choice and require only routine skill in the art the manner in which an A/D converter is implemented. Gordon et al. teach of a simple, yet efficient, manner to convert analog signals to digital signals. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the A/D converter of Gordon et al. in the apparatus of Merrill et al. in view of Gorelik to provide effective and low cost A/D conversion as desired.

Regarding claim 3, Gordon et al. does not explicitly disclose a register receiving the digital value. However, the digital value is outputted to some sort of register or

Art Unit: 2878

memory. Furthermore, the manner in which a signal is handled after conversion is design choice. Gordon et al. further disclose (see Figure 2) a timer (48) for synchronizing the output of the counter at the end of a predetermined time. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a register in the apparatus of Merrill et al. in view of Gorelik and Gordon et al. in order to store the digital value for further processing.

Regarding claim 4, Gordon et al. disclose compensation of the A/D converter. Gordon et al. do not disclose scaling the output of the oscillator in a dynamic range consistent with ambient lighting. However, it is notoriously well known in the art to bias or offset a signal in order to bring the signal within meaningful or measurable ranges. Thus, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to scale the output of the oscillator consistent with the ambient lighting in the apparatus of Merrill et al. in view of Gorelik and Gordon et al. in order to provide sufficient and adequate detection.

Response to Arguments

5. Applicant's arguments with respect to claims 1-5 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh X. Luu whose telephone number is (703) 305-

Art Unit: 2878

0539. The examiner can normally be reached on Monday-Friday from 6:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seungsook Ham, can be reached on (703) 308-4090. The fax phone number for the organization where the application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

txl
October 18, 2001



Que T. Le
Primary Examiner